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CUCUMBER CULTIVAR EVALUATION TRIALS

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PICKLING CUCUMBER CULTIVAR EVALUATION TRIALS - 1985

The pickling cucumber cultivar evaluation trials were conducted at the OARDC Vegetable Crops Branch near Fremont. Fourteen cultivars or lines were evaluated in the replicated trial and eighteen cultivars or lines were evaluated in the non-replicated observational trial.

Cultural Information

The soil is classed as a sandy loam. A broadcast application of 10-20-20 at 600 lbs/A was made and incorporated prior to planting. The plants were seeded on June 8 using a Stan-Hay seeder which seeds 4 to 5 seeds per ft. of row. Plants were thinned at the first true leaf stage to 2 single plants per foot of row. Rows were 30 ft. long on 30-in. centers. One active hive of honeybees was placed in the plot area when the plants started to bloom. All other cultural practices during the growing season were according to standard recommendations. Weed control was excellent and no serious problems with insects and diseases developed during the season.

The plots were harvested by hand and the cucumbers were graded and sized using a commercial sizer. Fruits were classed into the following sizes and values placed on each size according to the following values:

<u>Size</u>	<u>\$/Ton*</u>	
	<u>PCIC</u>	<u>OHIO</u>
1. Less than 1 1/6 in.	120	300
2. 1 1/6 to 1 1/2 in.	60	170
3. 1 1/2 to 2 in.	40	90
4. 2 to 2 1/4 in.	20	20

Harvest started on July 23 and continued through August 9.

Growing conditions were generally good throughout the season with normal temperatures, but below normal rainfall in June. Rainfall from planting on June 3 to the end of June was 1.67 in; July rainfall was 2.69 in; rainfall to August 8 was 3.79 in. Plots were irrigated on June 29 with 1.00 in of water.

Seed companies and others who provided the seed for the trials included: ARCO Seed Co., Brooks, OR; Harris-Moran Seed Co., Mountain View, CA; A.L. Castle, Inc., Morgan Hill, CA; Department of Horticulture, University of Wisconsin, Madison, WI; Asgrow Seed Co., Kalamazoo, MI; Northrup, King & Co., Gilroy, CA; Ferry-Morse Seed Co., Mountain View, CA; Peetoseed Co., Inc., Saticoy, CA; Musser Seed Co., Inc., Twin Falls, ID; Agri-Seed & Chemical Corp., Metamora, MI; H.J. Heinz, Fremont, OH.

*PCIC values established by the Pickling Cucumber Improvement Committee of Pickle Packers International. Ohio values based upon estimated average prices paid in 1984-85.

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TABLE 1. First harvest yield from replicated trial of Pickling Cucumber Cultivars, 1985.

Line	Source	Lot No.	Size	Tons/ A				Total	Culls
				1	2	3	4		
Armada	Petoseed	004-433		.71	1.57	.86	.04	3.18	.24
Volley	Petoseed	004-434		.67	1.62	.74	.17	3.20	.29
HXP-2461	Harris-Moran	144		.62	2.84	1.22	.04	4.72	.49
HXP-2460	Harris-Moran	134		.75	2.23	1.20	.00	4.18	.60
HXP-2468	Harris-Moran	77615-44653		.80	1.93	.38	.03	3.14	.36
Express F1	Musser	647-06-401		.36	2.31	1.71	.41	4.79	1.13
NVH-1911	Northrup King	----		.43	1.25	.55	.04	2.27	.17
Calypso	Ferry-Morse	----		.56	1.72	1.24	.20	3.72	.67
FMX-4642	Ferry-Morse	----		.37	1.47	.78	.00	2.62	.33
Capri Mix	Agri-Seed	43050-0-38		.61	1.55	.47	.12	2.75	.46
Arco-770	Arco Seed	845746		.39	2.19	2.10	.26	4.94	.48
XPH-1530	Asgrow	VGN8052		.94	.86	.39	.00	2.19	.16
1379 x Clinton	Univ. WI	890		.33	2.10	2.31	.11	4.85	.54
Carolina	H.J. Heinz			.37	1.84	1.60	.12	3.93	.68
LSD 5%				0.25	0.19	0.50	0.17	1.07	0.23

TABLE 2. Yield from replicated trial of Pickling Cucumber Cultivars, 1985.

Line	Yield from 6 Harvest Dates - Tons/A							L/D Ratio		Seed Cavity Size*
	7/23	7/26	7/30	8/2	8/6	8/9	Total	7/30 Size 2	8/9 Size 2	
Armada	3.18	1.31	2.52	1.32	2.54	1.34	12.51	3.09	3.08	-
Volley	3.20	1.75	3.33	1.34	3.68	1.78	15.08	2.82	2.79	=
HXP-2461	4.72	1.49	2.50	1.11	2.57	1.19	13.58	3.21	3.14	=
HXP-2460	4.18	1.41	2.63	1.13	2.61	1.46	13.42	3.16	3.14	-
HXP-2468	3.14	1.29	3.85	1.76	4.48	2.73	17.25	3.16	3.07	+
Express Fl	4.79	1.25	2.31	1.08	2.57	1.42	13.42	3.39	3.36	-
NVH-1911	2.27	1.08	2.03	1.01	2.87	1.71	11.42	3.11	3.19	-
Calypso	3.72	1.36	2.71	1.00	2.85	1.43	13.07	3.08	3.10	=
FMX-4642	2.62	1.68	2.80	1.49	3.51	1.79	13.89	3.18	2.95	=
Capri Mix	2.75	1.27	2.60	.91	3.63	1.70	12.86	3.12	3.09	=
Arco-770	4.94	1.58	2.52	.93	2.33	1.14	13.44	2.91	3.08	=
XPH-1530	2.19	.94	2.05	.83	2.17	1.39	9.57	3.21	3.33	=
1379 x Clinton	4.85	1.43	1.98	.81	2.82	1.46	12.81	2.80	2.73	-
Carolina	3.93	1.33	2.17	.80	2.44	1.28	11.95	2.93	3.10	
LSD .05	1.07	----	0.88	0.54	1.02	0.66	3.26	0.18	0.12	

* Seed cavity size compared to Carolina: "=" Same size; "+" larger, and smaller.

TABLE 3. Values of harvested cucumbers from Replicated Trial based on PCIC values, 1985.

Line	PCIC Value of 6 Harvest Dates - \$/A						Total
	7/23	7/26	7/30	8/2	8/6	8/9	
Armada	215	113	195	95	195	95	908
Volley	210	129	223	110	260	124	1056
HXP-2461	294	134	180	101	189	92	990
HXP-2460	273	118	191	94	206	104	986
HXP-2468	229	116	264	136	333	178	1256
Express Fl	258	123	169	93	182	97	922
NVH-1911	150	88	150	80	221	126	815
Calypso	224	117	189	94	207	105	936
FMX-4642	164	133	183	121	255	144	1000
Capri Mix	188	107	189	84	266	120	954
Arco-770	268	124	171	80	155	84	882
XPH-1530	179	87	151	78	164	113	772
1379 x Clinton	260	118	146	72	196	118	910
Carolina	220	114	156	76	161	108	835
LSD 5%			48				198

TABLE 4. Values of harvested cucumbers from Replicated Trials based on estimated Ohio values, 1985.

Line	Ohio Value of 6 Harvest Dates - \$/A						Total
	7/23	7/26	7/30	8/2	8/6	8/9	
Armada	558	290	513	242	512	248	2363
Volley	542	326	582	282	675	321	2728
HXP-2461	780	343	467	258	493	237	2506
HXP-2460	714	299	505	243	535	273	2569
HXP-2468	606	301	698	345	875	460	3285
Express Fl	655	315	442	232	476	249	2369
NVH-1911	394	226	395	205	572	327	2119
Calypso	572	300	488	242	548	275	2425
FMX-4642	431	343	475	315	666	371	2601
Capri Mix	490	279	490	214	702	302	2477
Arco-770	680	315	444	206	409	221	2275
XPH-1530	463	226	399	200	432	292	2012
1379 x Clinton	665	299	385	185	516	306	2356
Carolina	567	286	411	193	429	280	2166
LSD 5%			124				515

TABLE 5. First harvest yield from Observational Trial of Pickling Cucumber Cultivars, 1985.

Line	Source	Lot No.	Tons/A				Total	Culls
			Size 1	2	3	4		
PSR-50183	Petoseed	-----	.55	1.97	.99	.00	3.51	.76
FMX-4639	Ferry-Morse	-----	.29	.93	.52	.00	1.74	.09
FMX-4641	Ferry-Morse	-----	.76	1.31	.70	.00	2.77	.44
FMX-4642	Ferry-Morse	-----	.46	1.39	.76	.00	2.61	.20
FMX-4318	Ferry-Morse	-----	.44	1.66	1.66	.12	3.88	.87
NVH-1906	Northrup-King	38037-81800	.44	1.48	1.77	.00	3.69	.35
NVH-2050	Northrup-King	38037-20300	.38	.93	.61	.00	1.92	.15
NVH-1901	Northrup-King	38037-10200	.70	1.60	1.13	.00	3.43	.32
NVH-1908	Northrup-King	-----	.58	2.06	.64	.00	3.28	.15
NVH-1912	Northrup-King	-----	.67	2.70	1.22	.41	5.00	.29
Castlehy 2019	A.L. Castle	82C-5ACD	.78	1.83	2.24	.15	5.00	.41
Castlehy 2021	A.L. Castle	84C-36	.78	1.74	1.34	.00	3.86	.46
Castlehy 2023	A.L. Castle	43064022	1.07	2.41	2.00	.09	5.57	.64
Agri Seed 485	Agri-Seed	43063023	.64	2.09	1.22	.12	4.07	.58
Agri Seed 479	Agri-Seed	43063023	.52	1.92	2.35	.15	4.94	.55
XPH-1408	Asgrow	VGD6085	.38	.99	.00	.00	1.37	.12
XPH-1411	Asgrow	VGR7135	.44	1.83	1.57	.00	3.84	.26
XPH-1486	Asgrow	VGN8053	.61	1.66	1.13	.17	3.57	.76

TABLE 6. Yield for Observational Trial of Pickling Cucumber Cultivars, 1985.

Line	Yield from 6 Harvest Dates - Tons/A							L/D Ratio		Seed Cavity Size*
	7/23	7/26	7/30	8/2	8/6	8/9	Total	7/30 Size 2	8/9 Size 2	
PSR-50183	3.51	.84	1.91	.67	2.20	1.27	10.40	2.78	3.00	=
FMX-4639	1.74	.41	1.11	.49	1.60	1.07	6.42	3.07	3.24	-
FMX-4641	2.77	1.25	1.13	.87	3.51	2.21	11.74	3.20	3.10	=
FMX-4642	2.61	1.16	1.48	.52	2.85	.96	9.58	2.96	3.12	-
FMX-4318	3.88	.93	1.91	.73	2.88	1.19	11.52	3.40	3.27	=
NVH-1906	3.69	1.71	2.06	1.22	2.35	1.80	12.83	3.11	3.11	-
NVH-2050	1.92	1.51	2.15	.61	2.20	1.10	9.49	2.92	2.92	-
NVH-1901	3.43	1.10	2.73	1.13	3.25	1.01	12.65	3.07	3.07	=
NVH-1908	3.28	1.51	2.38	1.71	3.54	2.10	14.52	3.00	2.92	=
NVH-1912	5.00	1.37	2.06	1.34	1.92	1.63	13.32	3.80	3.57	=
Castlehy 2019	5.00	1.21	3.22	1.22	2.64	1.34	14.63	3.16	2.74	-
Castlehy 2021	3.86	.93	3.49	.90	3.66	2.00	14.84	2.85	2.93	=
Castlehy 2023	5.57	1.13	2.24	1.28	2.33	1.27	13.82	2.96	3.00	-
Agri Seed 485	4.07	.96	2.41	1.34	3.08	1.66	13.52	2.88	2.88	=
Agri Seed 479	4.94	.70	2.44	1.16	2.87	1.77	13.88	2.78	2.92	=
XPH-1408	1.37	.90	1.59	.58	2.55	1.19	8.18	2.92	2.88	-
XPH-1411	3.84	.44	1.16	.27	1.34	.24	7.29	2.71	2.72	=
XPH-1486	3.57	.81	1.89	.44	2.70	1.25	10.66	2.77	2.92	=

* Seed cavity size compared to Carolina. "=" same size; "+" larger; "-" smaller.

TABLE 7. Values of harvested cucumbers from Observational Trial based on PCIC values, 1985.

Line	PCIC Value from 6 Harvest Dates - \$/A						Total
	7/23	7/26	7/30	8/2	8/6	8/9	
PSR-50183	224	83	137	67	152	92	755
FMX-4639	111	34	75	47	134	82	483
FMX-4641	197	110	108	76	249	160	900
FMX-4642	169	94	113	59	156	78	669
FMX-4318	220	99	169	73	218	105	884
NVH-1906	211	130	156	118	157	133	905
NVH-2050	125	106	162	52	151	77	673
NVH-1901	224	86	195	103	209	87	904
NVH-1908	219	105	198	162	254	159	1097
NVH-1912	299	120	175	112	163	103	972
Castlehy 2019	296	120	227	127	186	109	1065
Castlehy 2021	252	101	220	82	259	133	1047
Castlehy 2023	355	102	151	87	160	90	945
Agri Seed 485	253	91	160	112	214	132	962
Agri Seed 479	274	71	164	80	207	133	929
XPH-1408	104	85	123	69	181	106	688
XPH-1411	224	40	87	24	102	22	499
XPH-1486	221	64	137	43	191	120	776

TABLE 8. Values of harvested cucumbers from Observational Trials based on estimated Ohio values, 1985.

Line	Ohio Value from 6 Harvest Dates - \$/A						Total
	7/23	7/26	7/30	8/2	8/6	8/9	
PSR-50183	590	214	359	173	393	238	1967
FMX-4639	292	88	199	121	353	213	1266
FMX-4641	511	275	279	200	666	410	2341
FMX-4642	444	237	295	149	395	205	1725
FMX-4318	561	252	438	184	579	274	2288
NVH-1906	541	333	385	305	417	347	2328
NVH-2050	326	266	429	136	394	202	1753
NVH-1901	582	220	496	266	545	228	2337
NVH-1908	582	273	516	413	664	410	2858
NVH-1912	769	302	460	290	416	270	2507
Castlehy 2019	747	306	590	321	496	288	2748
Castlehy 2021	651	256	578	209	680	350	2724
Castlehy 2023	912	261	393	204	412	235	2417
Agri Seed 485	656	233	418	293	561	343	2504
Agri Seed 479	694	182	432	211	545	343	2407
XPH-1408	281	217	325	174	471	273	1741
XPH-1411	582	104	228	62	267	58	1301
XPH-1486	566	166	360	111	501	310	2014

TABLE 10. Descriptive observations of cucumber cultivar evaluation trials, 1985.

Cultivar or Line	Description
Armada	Dk.green,black spine,striped,blocky,warty.
Volley	Dk.green,white spine,blocky,warty,fruits are very short.
HXP-2461	Dk.green,white spine,stippled,sm.warts,restr.both ends,not blocky
HXP-2460	Med.green,lightly stippled,white spine,restr.blossom end,warty
HXP-2468	Lt.green,white spine,warty,restricted blossom end.
Express F1	Dk.green,white spine,warty,blocky,minor restrict. blossom end.
NVH-1911	Dk.green,white spine,warty,blocky,slight restrict. blossom end
Calypso	Lt.green,white spine,stippled,warty,blocky,slight restrict.both blossom end and stem end.
FMX-4642	Med.dk.green,white spine,warty,blocky,slight restrict. blossom end
Capri Mix	Lt.green,white spine,stippled,blocky,slight restrict.blossom end, fairly smooth--may not have enough warts.
Arco-770	Med.dk.green,white spine,stippled,warty,blocky.
XPX-1530	Med.green,white spine,warty,slight restrict. blossom end
1379 x Clinton	Lt.green,white spine,warty,stippled,blocky,slight restrict.blossom end, very short.
Carolina	Med.lt.green,white spine,stippled,slight restrict. blossom end
PSR-50183	Dk.green w/dk.green stripes on ridges,white spine,warty, fairly blocky, stippling near each end.
FMX-4639	V.dk.green,some lt.green stripes,white spined,fairly blocky
FMX-4641	Med.green,white spine,warty,slight stippling,blossom end restric. blocky.
FMX-4642	Med.dk.green,slight stipples,white spine,warty,blocky,sl.blossom end restrictions.
FMX-4318	Dk.green,severe blossom end restrict.,warty,not well shaped.
NVH-1906	Med.dk.green,white spine,prominent stripes,slight blossom end restrict., warty.
NVH-2050	Med.green,white spine,some stippling,warty,blocky.
NVH-1901	Med.green,white spine,sl.stippling,warty,sl.restric.both ends
NVH-1908	Med.dk.green,white spine,stippled,warty,blocky,slight blossom end restrict.
NVH-1912	Dk.green,white spine,slight stippling,numerous warts,too long, resembles fresh market.
Castlehy-2019	Med.green,white spine,stippled,warts,restricted at both ends.
Castlehy-2021	Med.green,white spine,less prominent warts,short,fairly blocky.
Castlehy-2023	Med.green,white spine,warts,slight blossom end restrict.
Agri-Seed-485	Med.green,white spine,warty,stippled,blocky,sl.restr.blossom end
Agri-Seed-479	Med.green,white spine,less prominent warts,blossom end restr.
XPX-1408	Med.green,white spine,stippled,late maturity.
XPX-1411	Med.dk.green,white spine,stippled,warty,slight blossom end restr.
XPX-1486	Med.lt.green,white spine,warty,blossom end restrict.

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